

**ALASKA STATE LEGISLATURE  
SENATE SPECIAL COMMITTEE ON ENERGY**

September 27, 2010

3:38 p.m.

**MEMBERS PRESENT**

Senator Lesil McGuire, Chair

**MEMBERS ABSENT**

Senator Lyman Hoffman  
Senator Albert Kookesh  
Senator Bert Stedman  
Senator Bill Wielechowski

**OTHER LEGISLATORS PRESENT**

Senator Linda Menard  
Senator Coghill  
Representative Chris Tuck  
Representative Johnson

**COMMITTEE CALENDAR**

Presentation - "Alberta's Clean Energy Future" by Members of the  
Alberta Legislative Assembly

- HEARD

**PREVIOUS COMMITTEE ACTION**

No previous action to record

**WITNESS REGISTER**

JEFF JOHNSON, MLA for Athabasca-Red Water  
Alberta, Canada

**POSITION STATEMENT:** Participated in presentation of "Alberta's  
clean energy future."

EVAN BERGER, MLA for Livingstone-McLeod  
Parliamentary Assistant to the Minister of Sustainable Resource  
Development  
Alberta, Canada

**POSITION STATEMENT:** Participated in presentation of "Alberta's  
clean energy future."

CAL DALLAS, MLA for Red Deer South  
Parliamentary Assistant to the Minister of Environment  
Alberta, Canada

**POSITION STATEMENT:** Participated in presentation of "Alberta's clean energy future."

#### **ACTION NARRATIVE**

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**CHAIR LESIL MCGUIRE** called the Senate Special Committee on Energy meeting to order at 3:36 p.m. Senator McGuire was present at the call to order.

#### **Presentation - "Alberta's Clean Energy Future" by members of the Alberta Legislative Assembly**

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CO-CHAIR MCGUIRE welcomed the delegation from Alberta: Jeff Johnson, MLA for Athabasca-Red Water; Evan Berger, MLA for Livingston McCloud; and Cal Davis, MLA for Red Deer South. They would present on Alberta's clean energy future. She said many of the Pacific Northwest Economic Region (PNWR) members were able to visit the Alberta oil sands in July.

JEFF JOHNSON, MLA for Athabasca-Red Water, Alberta, said they are in town to take part in the oil and gas congress with their minister of energy. He said they spent the morning looking at the Fairbanks cold climate housing research project and the pipeline training center.

MR. JOHNSON said he knows of a number of vocal detractors around the world who would prefer they shut down the oil sands, and even shut down fossil fuels. Some think they simply don't care about the environment, but they do. Canadians back it up with laws and regulations that they believe are some of the strictest in the world.

He said his role as parliamentary assistant to the Treasury Board is not just to assist the minister, but to work specifically on their oil sands secretariat, which is a body within government that is doing some coordinating and planning, especially community and infrastructure around the incredible growth the oil sands are seeing.

MR. JOHNSON said that Alberta is a secure and responsible supplier of energy. It has an abundance of resources and is

committed to developing them as responsibly as possible. No other oil-producing jurisdiction in the world takes environmental management more seriously than Alberta.

He said they are being challenged to look at the development and extraction of oil in a more comprehensive manner as opposed to just the very important economic rewards and environmental considerations; they are being pushed to look at this "more ethically and more comprehensively" along with adding a third pillar, which is the socio-political aspect (ethical oil), and where we get our oil across the world. He would argue that in Alberta no soldiers are losing their lives over that oil field, and no money is being invested there that ends up in the hands of terrorism. The US and Canada stack up very well in terms of human rights, but this is not to say they shouldn't shift to cleaner energy.

MR. JOHNSON said Alberta produces oil because the world demands it; people will continue to rely on oil to meet day to day needs. But they also recognize the importance of new technologies and they are investing in them. New technologies are key to reducing the environmental impacts of production, mitigating risk, reducing energy consumption, advancing the role of renewable and alternative energy, and speeding the reclamation in Alberta's oil sands and disturbed lands across their province. Something that is not widely reported is that Alberta is the number-one supplier of non-domestic oil for the US, at 17 percent of the country's total imports - more than from Saudi Arabia and Iraq combined.

MR. JOHNSON said Alberta is the only jurisdiction in his pie chart that is not a country. Like Alaska, as an energy producer provider, their energy policies will be increasingly coming under more and more scrutiny. This scrutiny is not a bad thing even though it will not always be balanced and fair; it's healthy and they welcome the challenge. The irony is that they will be under the microscope because they embrace the debate as a western democracy. Very few of the world's top producers and reserves owners permit this debate.

In terms of energy security, he said they need to remember that each barrel of oil purchased from Alberta means less dependence on oil from sometimes unfriendly countries overseas. But that's not the only benefit the oil sands provides. They are a powerful economic driver, not only in Alberta but in all of Canada and in the US, and this is at a time when North America desperately needs strong economic drivers.

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MR. JOHNSON said based on infrastructure development going on north of Alberta, its oil and gas sector looks very promising. In 2009 alone, capital investment in Alberta's oil sands was nearly \$10 billion and currently about \$140 billion worth of oil sands construction is in progress or being proposed for 2012. Alberta is getting the world's attention with the oil sands and they are seeing a dramatic increase not only in the scrutiny they are getting but in terms of the interest they are getting from foreign nationals - like state owned oil companies from China, India, Korea, Japan, Middle East, and others.

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Their research has shown that every dollar invested in the oil sands creates about \$9 worth of economic activity and one-third of that is generated outside of Alberta in Canada, the U.S. and around the world. From 2011-2015 it's estimated that oil sands development will create 343,000 person years of employment across the US alone. Due to the job creation, the increased demand for American made goods will increase its GDP by an average of \$31 billion annually. He said many Americans are already employed through existing contracts to Alberta's oil sands and that will only grow. Mr. Johnson said the question is whether security and the financial benefits come at the cost of the environment, and the answer is, "Absolutely not!"

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EVAN BERGER, MLA for Livingstone-McLeod and Parliamentary Assistant to the Minister of Sustainable Resource Development, continued the presentation. He said oil sands are a naturally occurring mix of sand, clay, water and bitumen. The bitumen is separated from the sand top grade into refinery-ready crude. Each grain of sand is actually encased in water and then the oil wraps around that. So, when you hear the oil sands are on top of the ground that means they are on top of the ground in many places. In other places the oil flows out of the sand into the Steep Bank River in one area where the river cuts through the sands naturally.

He said the oil sands are in northern Alberta, and currently they contain more than 170 billion barrels of recoverable oil with today's technology (potentially 315 billion barrels or 3 million barrels a day for 150 years). This is the second-largest proven oil deposit in the world after Saudi Arabia.

MR. BERGER said they keep hearing that the size of the land disturbed by the oil sands activity is the size of Florida, some have said it is twice the size of England, but the fact is the oil sands underlie over 54,000 square miles of land in northern Alberta and that is about the size of Florida. But the entire minable area in the oil sands covers about 1,800 square miles, which is less than 1 percent of Alberta's forested area. Only 232 square miles have been disturbed by oil sands activity to date.

MR. BERGER said that using the word "disturbed" doesn't mean open pit mines. He explained that only 20 percent of the oil sands are close enough to the surface they can be extracted through open pit mining. The other 80 percent will be "in situ" (meaning in place) developments, which uses steam to access deposits that are too deep with a very minimal footprint to the surface. In situ mining, and the steam brings the bitumen to the surface but leaves the sand in place under the ground. The environmental footprint is quite small making them much more efficient operations.

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MR. BERGER said the Alberta oil sands are built on innovation and that, in turn, fuels work and responsible resource development. However, there is no oil sands development without emitting CO<sub>2</sub>, but the common misconception is that developing oil from oil sands results in a much higher carbon dioxide emission than conventional oil. However, when taking into account the entire lifecycle of a barrel of oil including production, refining, transportation, and end use, greenhouse gas emissions from oil sands crude averages 5 percent higher than a variety of conventional crudes in the North American market place. He said his graph of "well to wheels" indicated a competitive position among other regions of the world.

Green house gases from the oil sands account for 15 percent of Alberta's annual emissions; that is about 5 percent of Canada's total emissions. Canada is 2 percent of the world's emissions. This means the oil sands produce less than one-tenth of 1 percent of global emissions, but they are always looking for better technology.

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CAL DALLAS, MLA for Red Deer South and Parliamentary Assistant to the Minister of Environment, said Alberta's climate change strategy aims to reduce their project green house gas emissions by 200 megatons by 2050. Their carbon capture and storage (CCS)

initiative plays a key role in this strategy and they expect it will help achieve 70 percent of their target. That is equivalent to taking approximately 1 million vehicles or about one-third of all the registered vehicles in Alberta off the road.

Alberta has invested \$2 billion into CCS, a technology that is seen as a major component for large scale green house gas reductions by organizations such as the United Nations Intergovernmental Panel on Climate Change. Outside of CCS, Alberta is the first jurisdiction in North America to require large industry such as at the oil sands to reduce green house gases. Through options that include reducing their emissions and paying into a technology fund, industry has reduced more than 1,700 million tons of green house gases. They paid \$187 million into a clean energy fund and invested \$71 into clean energy projects.

MR. DALLAS also said that Alberta has strict legislation in place to protect its air, water and land. For those living in the oil sands region air quality is a big concern and it is the most heavily monitored region for air quality. There are 15 real time stations that are at work 24/365. Alberta's air monitoring tells them that the air quality in Fort McMurray rates better than major Canadian cities like Toronto or Vancouver. Using a more specific measurement, air quality is rated as good more than 95 percent of the time based on Alberta's air quality index.

MR. DALLAS said that water use is strictly regulated in the oil sands and it is constantly monitored. Some believe that oil sands projects are using nothing but fresh drinkable water to extract bitumen, but in fact, oil sands developers have drastically reduced their need to draw fresh water. He explained that water users have permission to withdraw a combined total of 3 percent of the water flow of the Athabasca River, Alberta's longest river; 2 percent of that is allocated to the oil sand operations and most water users don't withdraw their limit. In fact, less than 1 percent of the water is used.

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Restricting industrial water withdrawals might sound like a major obstacle to oil sand operators, but most have found ways to reuse and recycle water and some projects are recycling 80-95 percent of the water they use. Tailings ponds are another challenge. Tailings are a by-product from oil sands mining operations where water is used to extract bitumen from the rest of the ore. Tailings are a mix of sand, clay, small amounts of

bitumen and naphtha. The ponds serve as a place for the solids and the water to settle out of mix. This is a common industry practice in various mining operations. While a large portion of the tailings can be settled out quickly, some smaller portions such as those containing fine clays in solution can take a very long time.

New tailings management technologies and policies are being developed that will shorten the lifespan of ponds to 10 years and maybe less. The potential to eliminate wet tailings is also backed by a directive from Alberta's Energy Resources Conservation Board. It provides performance criteria that will result in faster reclamation and reduced fluid tailings. So far oil sands operators have committed more than \$1.5 billion in upgrades to comply with this directive. In the meantime, Mr. Dallas said, Alberta has multiple checks and balances in place to manage tailings pond. They must have extensive ground water monitoring systems and effective seepage capture facilities.

MR. DALLAS said that reclamation is the law in Alberta. Every square inch of disturbed land must become as ecologically productive as it was before development. It can take decades, but they are working to speed things up by encouraging the use of progressive reclamation process where industry begins reclamation work on a site before operations are complete. As of December 2008, industry has reclaimed almost 42 square miles of land. Government has issued its first pond reclamation certificate to Syncrude in 2008 for the reclamation of a 256-acre site called Gateway Hill where buffaloes now graze. Last year Suncor [Energy] announced it was the first company in Alberta to successfully reclaim a 1.3 square-mile tailings pond.

MR. DALLAS said their challenge is to balance energy development, the resulting environmental impacts and the economy; and they will achieve this by establishing realistic targets and policies that continually reduce environmental impacts of development while investing in clean energy research.

CHAIR MCGUIRE thanked him for his presentation.

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REPRESENTATIVE CRAIG JOHNSON asked where the \$2 billion in carbon capture funds came from.

MR. DALLAS answered that the entire fund came from general revenues that he presumed resulted from royalty payments related to resource extraction. It was provincial allocation only and

the expenditures were restricted by legislation to engage in CCS technologies.

REPRESENTATIVE JOHNSON asked what he thought the response would have been if the money came from gas taxes.

MR. DALLAS replied that he could only speculate, but as the owners of world's second largest proven reserve of hydrocarbons, it was necessary to make a very serious statement about environmental stewardship and the impact the extraction of those resources would have on green house gas potential. The investment has been well received so far and even though the benefits will take a long time to reap, the opportunities they have been exploring with that fund are significant in many respects - for instance, capturing CO<sub>2</sub> in their electrical generation facilities and opportunities to enhance conventional oil and gas recovery through the use of CO<sub>2</sub> back down hole development. It's not just about the mitigation of CO<sub>2</sub>, but about other real business opportunities outside of the resource extraction.

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SENATOR MENARD asked how long the Athabasca River is as compared to the Kenai River. She also wanted to know what some of the more important questions were at the climate change summit in Copenhagen on oil sands. She heard that it was a failure, but she wanted to know if he thought it was successful in terms of sharing his innovations.

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MR. BERGER answered that one-third of the Athabasca River runs through Alberta before it goes through the Northwest Territories and out to the ocean. Regarding the climate change summit, Mr. Berger said that the Minister of Environment, who represented them at Copenhagen, was able to put the facts on the table and rebut some of the misinformation that was there. Two other provinces made comments on the oil sands, but they both retracted them after the meeting and getting more information. In general, it was an opportunity for Alberta to clear the air on the oil sands situation.

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REPRESENTATIVE JOHNSON mentioned he was anticipating a \$140-billion investment through 2012, and asked if the oil sands had been in development for eight years.

MR. BERGER replied no; it's more like 40 years. The \$140 billion is for some of the new projects coming on going forward; in 2009 those investments added up to \$10 billion.

REPRESENTATIVE JOHNSON asked what they did as a legislative body to incent that investment.

MR. BERGER replied that a big part of the change is that they are undergoing a regulatory review of sustainable resource development, energy and environment - putting them all on the table and saying they want the process to be environmentally sound, but they want it with no huge delays. They want to streamline the application process by having applications go through a "one window shopping type thing" where an applicant comes into the Energy Resources Conservation Board (ERCB) as the regulator and that application is transferred through all of the other regulatory departments that have to see it. Another reason for the increase is that bitumen has moved up closer in the spread to West Texas intermediate. And a significant pipeline network is getting better all the time - to connect it to the market. The combination of all those things has brought more investment forward for the oil sands.

REPRESENTATIVE JOHNSON asked if their tax regime was changed.

CHAIR MCGUIRE said that Senator Thomas joined the committee some time ago, as did Senator Coghill.

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MR. JOHNSON answered that the \$10 billion is what would have been invested roughly in 2009, but they have to recognize that the oil sands projects are massive and take a lot of capital. It's not uncommon for one project to take \$5-\$10 billion and 10 years to construct. To put that in perspective, in 2008 1.3 million barrels per year were being produced out of the oil sands and now they are at 1.5 million/day. The projections are to move to 6 million barrels per day over the next three decades.

He added that another incentive for investment in the oil sands is Canada's royalty structure that allows some of the capital costs to be recovered before royalties are paid. He said last year was the first year that the oil sands royalty revenue surpassed royalty from natural gas (which was always their big money ticket) and conventional gas combined. He said that Canada is fortunate in that they are a western democracy that has investable oil reserves; most private companies don't want to

invest in some other countries with different types of governments.

SENATOR THOMAS asked him to clarify how the settling ponds would affect the river.

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MR. DALLAS said the Athabasca River is just under 800 miles long. He said that none of the tailing ponds from the mining operations have a discharge or seepage back into the Athabasca River. One tailing pond he is familiar with has more than 70 monitoring wells around the circumference. Any migration of any material is closely monitored. The ponds are engineered to seep and then the recovery component gets pumped back in. Vertical migration is measured as a function of millimeters per year. Because the Athabasca River runs through this bitumen-bearing geology deposit, those same hydrocarbon materials can be detected in the water; and run off - not from mining operations - but all along the river through the oil sands region potentially contribute to some of the measurable components that are in those water tests. In the last few days, the Minister of Environment announced an independent panel of scientists would peer review both the measuring capacity of government measured water quality and some of the independent measurements that have taken place. Quality of that river is taken very seriously by Albertans, especially by inhabitants that are downstream from the mining operations.

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SENATOR THOMAS asked if all taxes are suspended until the investment is recovered or just the royalty taxes.

MR. DALLAS replied there were no changes to the tax structure either in 2008 or the recent restructuring that was made just a number of months ago, and they are talking about royalty payments based on the extraction and sale of the resource as opposed to what they would think of as an income tax. The tax regime is the same both from a federal and a provincial jurisdiction.

He elaborated that commitments have been made to Albertans that without compromising environmental or social outcome, they will review policy assurance and improve on the time performance of the approval process. This review is called the Regulatory Enhancement Project and is being done by Emily Berger, Dianna McQueen and himself.

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SENATOR THOMAS asked if the regulatory changes they made were more like streamlining the system and he asked how that was done. Did they get input from industry?

MR. DALLAS replied that there were two different pieces of business. The initial one was around refinement of the royalty regime. Their government engaged industry in a very frank dialogue about each of the different types of geological formations and the different conventional and unconventional oil and gas plays that are available. They had "very good disclosure" by industry in terms of the economics of production, and the government of Alberta had a "good discussion" about the interests of Albertans in terms of fairness because the resource belongs to all Albertans. Considerable trust was built in the initial discussions. This very frank dialogue resulted in changes that not only satisfied industry but Albertans, as well, with the industry's willingness to invest.

For the second piece of work involved in the regulatory enhancement project, he said not only have they been working with industry through their major associations including the Canadian Association of Petroleum Producers, but other stakeholders - landowners, First Nation Groups, and the government of Alberta.

CHAIR MCGUIRE recognized Jennifer Lowden with the Canadian Council. She then asked if he had updates on the McKenzie Delta pipeline and from the AGIA-led pipeline - from his perspective.

MR. BERGER said he didn't have a specific answer right now, but as partners in the energy industry, it's in their best interest to work collaboratively with Alaska and their other partners to facilitate what they can for movement of product. That benefits everyone in the end.

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CHAIR MCGUIRE said "keep us posted," and thanked everyone for being there; she adjourned the meeting at 4:32 p.m.